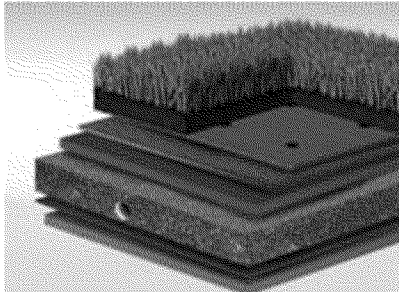


To: Amy Brackin[abrackin@libertytire.com]
Cc: Janjic, Ksenija[Janjic.Ksenija@epa.gov]; Villamizar, Nicole[Villamizar.Nicole@epa.gov]
From: Carusiello, Chris
Sent: Wed 11/9/2016 6:12:50 PM
Subject: RE: Request for Review of STC Citations

Hi Amy,

One additional question we had was if it was possible to use the following graphic from http://www.syntheticurfCouncil.org/page/Resource_Center in the report. We would like to respect any copyrights from the Synthetic Turf Council when using it. Please let us know if this is acceptable to use for the report and we will appropriately attribute the source.



A cross-section of the layers of a typical synthetic turf field.

Thank you,

Chris Carusiello

From: Carusiello, Chris
Sent: Tuesday, November 08, 2016 3:05 PM
To: 'Amy Brackin' <abrackin@libertytire.com>
Cc: Janjic, Ksenija <Janjic.Ksenija@epa.gov>; Villamizar, Nicole <Villamizar.Nicole@epa.gov>
Subject: Request for Review of STC Citations

Hi Amy,

We have greatly appreciated the Synthetic Turf Council's support and engagement as we implement the *Federal Research Action Plan on the Use of Tire Crumb on Playing Fields and Playgrounds*. As you may know, by the end of the year, the agencies will release a draft status report that describes the findings and conclusions of the research through that point in time. The status report also will outline additional research needs and next steps. We're planning to include a preliminary summary of the information we've learned through our outreach and engagement efforts, including the process by which synthetic turf fields are constructed, installed and maintained, in the status report. While we will primarily draw from publically available sources (e.g. reports/studies, web sites, etc.), we would like to include some of the information you provided to us during our meeting in March. As we promised, I am contacting you in advance to provide you with an opportunity to review the personal communication that we would like to cite (highlighted below). Please confirm in an email back to me that the highlighted text is accurate, or provide any edits you wish to make, at your earliest convenience – but if possible, no later than 11/14. Thank you again. We sincerely appreciate your continued support and engagement on this issue.

Synthetic Turf Fields

Synthetic turf field systems were initially introduced in the 1960s. Currently, there are between 12,000 and 13,000 synthetic turf sports fields in the U.S., with approximately 1,200 – 1,500 new installations each year (STC et al., 2016). Synthetic turf fields are installed at municipal and county parks; schools, colleges and universities; professional team stadiums and practice fields; and military installations.

...

Tire Crumb Rubber Manufacturing Process

In the United States, tires typically are collected at tire dealerships and auto-service stations and shipped to tire crumb producers. Tires of different types (e.g. passenger vs. truck) and from different manufacturers are mixed together at tire collection stations and tire crumb recycling plants. According to the Synthetic Turf Council, nine tire crumb producers in U.S. produce approximately 95% of the recycled rubber used as infill in synthetic turf field applications (STC et al., 2016).

...

Ambient and Cryogenic Processes

Two tire recycling processes, ambient and cryogenic, are used to create tire crumb in the 10 – 20 mesh (0.84 – 2.0 mm) size, which is generally the size used in synthetic turf infill. The ASTM Standard D5644 can be used to determine the average particle size distribution of recycled vulcanizate particulate (ASTM, 2013). The number of tire recycling facilities utilizing the ambient process is greater than the number of facilities utilizing the cryogenic process (STC et al., 2016).

...

Synthetic Turf Fields

It is estimated that 95% of the fields utilize recycled rubber infill exclusively or in a mixture with sand or alternative infills (STC et al., 2016).

...

To a much lesser extent, natural materials (e.g. ground coconut husk), ethylene propylene diene monomer (EPDM), or thermoplastic elastomers (TPE) granules may be used as the complete infill. These materials may also be used as the uppermost layer of infill (STC et al., 2016). Infill material is typically spread using small utility vehicles that make multiple passes across entire fields, laying the material down in thin layers that are placed one on top of the other until the appropriate height is reached.

...

Synthetic Turf Field Maintenance

Routine synthetic turf field maintenance is conducted to improve the appearance as well as to extend the life of a synthetic turf field (STC, 2015). Recommended maintenance practices include brushing the field for infill redistribution, raking to rejuvenate the fibers and relevel the top portion of the infill, and sweeping for debris removal (STC et al., 2016; Fieldturf, n.d.-b). Some field installers and maintenance professionals also recommend aerating the field to help reduce compaction in the infill material (STC, 2015; FieldTurf, n.d.-b). It is recommended that some of these practices be performed more frequently than others, depending on the frequency the field is used and specific guidelines for the sport.

STC et al. (2016). Information provided as part of an informational meeting between the U.S. EPA and representatives of the Synthetic Turf Council, Safe Field Alliance, Recycled Rubber Council, and the Institute of Recycling Industries. Arlington, VA. March 26, 2016.

Thank you,

Chris Carusiello

Chris Carusiello

U.S. EPA Office of Resource Conservation & Recovery

Industrial Materials Reuse Branch

Tel (703) 308-8757

Carusiello.Chris@epa.gov | [@EPAland](#)